



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/536,988	05/31/2005	Yoji Ito	1030662-000122	9994

21839 7590 05/23/2007
BUCHANAN, INGERSOLL & ROONEY PC
POST OFFICE BOX 1404
ALEXANDRIA, VA 22313-1404

EXAMINER

CALEY, MICHAEL H

ART UNIT	PAPER NUMBER
----------	--------------

2871

MAIL DATE	DELIVERY MODE
-----------	---------------

05/23/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/536,988	ITO, YOJI	
	Examiner	Art Unit	
	Michael H. Caley	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 13-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☒ Claim(s) 11 and 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/31/05; 7/20/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Claims 13-23 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 3/28/07.

Information Disclosure Statement

The information disclosure statements filed 5/31/05, 7/20/05 fail to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

It is further noted that these documents are not submitted by the International Bureau.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito et al. (WO 01/88574 A1 “Ito”) in view of Iwata et al. (U.S. Patent Application Publication No. 2002/0015123 “Iwata”).

U.S. Patent Application Publication No. 2003/0218709 is used as an English equivalent document for the subject matter disclosed in WO 01/88574.

Regarding claim 1, Ito discloses a liquid crystal display of OCB mode (Page 3 [0035]) which comprises a backlight unit (Figure 6 element BL), a backlight-side polarizing plate (Figure 6 element 134B), a liquid crystal cell (Figure 5 element 110) of OCB mode (Page 3 [0035]) and a viewer-side polarizing plate in order, wherein the viewer-side polarizing plate comprises an optically anisotropic layer (Figure 5 element 131a) formed from liquid crystal compound (Pages 30-31; [0426]-[0427]), a first transparent protective film, a polarizing membrane, a second transparent protective film (Figure 5 element 134a; Page 28 [0369]) and a light diffusing layer in order (Page 29 [0396]), the viewer-side polarizing plate being so placed that the optically anisotropic layer formed from liquid crystal compound is arranged on a side of the liquid crystal cell (Figure 5), wherein the first transparent protective film is a cellulose acetate film (Page 28 [0369] having a R_e retardation value of 20 to 70 nm (abstract) and a R_{th} retardation value of 100 to 500 nm (abstract).

Ito fails to disclose the light-diffusing layer as comprising transparent resin and transparent fine particles dispersed therein having refractive indices different from each other. Iwata, however, teaches an analogous polarizing plate and anisotropic layer arrangement having

Art Unit: 2871

a diffusing film with the proposed transparent resin and transparent fine particles having different refractive indices (abstract; Page 2 [0020]-[0022]; Figure 9).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the light-diffusing layer in the display device disclosed by Ito according to the construction disclosed by Iwata. One would have been motivated to form the light-diffusing layer of a transparent resin and transparent fine particles having refractive indices different from each other to benefit from a display having optimal haze and surface roughness properties, resulting in an excellent display quality (Page 3 [0038]).

Regarding claim 2, Ito discloses the first transparent protective film as a cellulose acetate film having a thickness of 10 to 70 microns and comprising cellulose acetate having an acetic acid content of 59.0 to 61.5% (Page 3 [0036]-[0037]).

Regarding claim 3, Ito discloses the first transparent protective film is a cellulose acetate film comprising 100 weight parts of cellulose acetate and 0.01 to 20 weight parts of an aromatic compound having at least two aromatic rings (Page 3 [0037]).

Regarding claim 4, Ito discloses the first transparent protective film as a cellulose acetate film having a thickness of 10 to 70 microns and comprising cellulose acetate having an acetic acid content of 59.0 to 61.5% (Page 3 [0036]-[0037]).

Regarding claim 5, Iwata discloses the second transparent protective film as having, on a side of the light-diffusing layer, a surface on which average surface roughness measured at a cut-off value of 0.8 mm per 100 mm length is 0.2 microns or less (Page 3 [0038]).

Regarding claim 6, Ito discloses the liquid crystal compound as a discotic liquid crystal compound (Page 4 [0047]).

Regarding claim 7, Iwata discloses the difference between the refractive index of the transparent resin and the refractive index of the transparent fine particles as in the range of 0.02 to 0.15 (Page 3 [0062]).

Regarding claim 9, Iwata discloses the light-diffusing layer as having a haze of 40% or more (Tables 1 and 5).

Regarding claim 10, Iwata discloses a low-refractive index layer having a refractive index of 1.35 to 1.45 as provided on the light-diffusing layer (Pages 5 and 6 [0092], [0093]).

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ito in view of Iwata and in further view of Kawanishi (JP 2002-328228).

Ito as modified by Iwata fails to disclose the fine particles as having a distribution having at least two peaks, one in the range of 0.5-2.0 microns and another in the range of 2.0 to 5.0

Art Unit: 2871

microns. Kawanishi, however, teaches such a distribution having two peaks as proposed (Paragraph [0005]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the fine particles to have a distribution having at least two peaks, one in the range of 0.5-2.0 microns and another in the range of 2.0 to 5.0 microns. One would have been motivated to form the distribution as proposed to produce a uniform contrast across all viewing angles (Paragraph 0004, 0013).

Allowable Subject Matter

Claims 11, and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 11 and 12, the prior art fails to disclose or suggest a liquid crystal display having the viewer-side polarizing plate construction as proposed in claim 1 in which a distance between a color filter of the liquid crystal cell and the light-diffusing layer is 0.6 mm or less.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael H. Caley whose telephone number is (571) 272-2286. The examiner can normally be reached on M-F 8:30 a.m. - 5:00 p.m..

Art Unit: 2871

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David C. Nelms can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in cursive script, appearing to read 'Michael H. Caley', written in black ink.

Michael H. Caley
May 2007